

Notice of Allowability

Application No.

10/025,063

Examiner

Un C. Cho

Applicant(s)

DAHLBACK ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 23 April 2004.
2. ☒ The allowed claim(s) is/are 1,2,4-11 and 13-36.
3. ☒ The drawings filed on 19 December 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

Allowable Subject Matter

1. Claims 1, 2, 4 – 11 and 13 – 36 are allowed.
2. The following is an examiner's statement of reasons for allowance:

Regarding claim 1, Banik in view of Davidsson discloses estimating a frequency offset for the remote handset (Banik, Col. 13, lines 39 – 41), determining whether the estimated frequency offset is greater than a predefined threshold (Banik, Col. 13, lines 42 – 46), determining whether the total timing drift is greater than a predefined threshold (Banik, Col. 9, lines 27 – 31) if the estimated frequency offset is compared to the predefined offset threshold (Banik, Col. 13, lines 42 – 46), and adjusting the frequency of the mobile communication device if the total timing drift is determined to be greater than the predefined drift threshold (Banik, Col. 9, lines 27 - 31) and that the timing drift compensation is performed based on frequency offset estimation (Davidsson, Paragraph 0026, lines 1 – 3). However, Banik in view of Davidsson either alone or in combination fails to teach wherein the adjusting step includes decreasing a reference frequency of the mobile communication device if a value of the total timing drift is determined to be not greater than the predefined drift threshold.

Regarding claim 10, Banik in view of Davidsson discloses a transceiver unit (Banik, Fig. 1A, 125), a voltage-controlled oscillator (Banik, Fig. 1A, 130) adapted to generate a reference frequency signal for the transceiver unit, and a controller (Banik, Fig. 1A, 105) adapted to control the reference frequency generated by the voltage-controlled oscillator; estimating a frequency offset for

the remote handset (Banik, Col. 13, lines 39 – 41), calculate a total timing drift for the mobile communication device using the estimated frequency offset (Davidsson, Paragraph 0026, lines 1 – 3), comparing the estimated frequency offset to the threshold (Banik, Col. 13, lines 42 – 46), determining whether the total timing drift is greater than a predefined drift threshold (Banik, Col. 9, lines 27 – 31) if it is determined after the estimated frequency offset is compared to the predefined offset threshold (Banik, Col. 13, lines 42 – 46), and adjusting the frequency of the mobile communication device if the total timing drift is determined to be greater than the predefined drift threshold (Banik, Col. 9, lines 27 - 31). However, Banik in view of Davidsson either alone or in combination fails to teach wherein the adjusting step includes decreasing a reference frequency of the mobile communication device if a value of the total timing drift is determined to be not greater than the predefined drift threshold.

Regarding claim 19, Banik (EP 1134897) in view of Davidsson (US 2002/0101840) discloses estimating a frequency offset for the remote handset (Banik, Col. 13, lines 39 – 41), calculate a total timing drift for the mobile communication device using the estimated frequency offset (Davidsson, Paragraph 0026, lines 1 – 3), comparing the estimated frequency offset to the predefined threshold (Banik, Col. 13, lines 42 – 46), determining whether the total timing drift is greater than a predefined drift threshold (Banik, Col. 9, lines 27 – 31) if it is determined after the estimated frequency offset is compared to the predefined offset threshold (Banik, Col. 13, lines 42 – 46), and adjusting the

frequency of the mobile communication device if the total timing drift is determined to be greater than the predefined drift threshold (Banik, Col. 9, lines 27 - 31). However, Banik in view of Davidsson either alone or in combination fails to teach estimating a long-term frequency error and a short-term frequency error for the mobile communication device, calculating a total timing drift for the mobile communication device using the long-term frequency error, determining whether a magnitude of the short-term frequency error is greater than a predefined error threshold and determining whether a magnitude of the total timing drift is greater than a predefined drift threshold if the magnitude of the short-term frequency error is determined to be not greater than the predefined error threshold.

Regarding claim 28, Banik in view of Davidsson discloses a transceiver unit (Banik, Fig. 1A, 125), a voltage-controlled oscillator (Banik, Fig. 1A, 130) adapted to generate a reference frequency signal for the transceiver unit, and a controller (Banik, Fig. 1A, 105) adapted to control the reference frequency generated by the voltage-controlled oscillator, adjusting the frequency of the mobile communication device if the total timing drift is determined to be greater than the predefined drift threshold (Banik, Col. 9, lines 27 - 31). However, Banik in view of Davidsson either alone or in combination fails to teach estimating a long-term frequency error and a short-term frequency error for the mobile communication device, calculating a total timing drift for the mobile communication device using the long-term frequency error, determining whether a magnitude of the short-term frequency error is greater than a predefined error

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threshold, determining whether a magnitude of the total timing drift is greater than a predefined drift threshold if the magnitude of the short-term frequency error is determined to be not greater than the predefined error threshold.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Un C. Cho whose telephone number is (571) 272-7919. The examiner can normally be reached on M ~ F 8:00AM to 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


SONNY TRINH
PRIMARY EXAMINER

Un C Cho
Examiner
Art Unit 2687

8/2/05 